

## depr teinization

components of the light scattered by scattering particles when illuminated by unpolarized light. If the scattering particles are isotropic the depolarization ratio will be zero; if they are anisotropic it will not be zero.

**deproteinization** or **deproteinisation** the process of removing protein from a biological sample, either by precipitation of protein from solution or by hydrolysis of protein with proteolytic enzymes.

**depside** any of a family of natural or artificial compounds derived from two or more molecules of various trihydroxybenzoic acids by esterification of a carboxyl group on one molecule with a hydroxyl group on another molecule (which may or may not be of the same structure as the first). By analogy with peptides, depsides derived from two, three, etc., or several trihydroxybenzoic acid units may be termed **didepside**, **tridepside**, etc., or **polydepside**, respectively. Depsides occur widely in lichens and also as components of some tannins.

**depsidone** any compound derived from two phenolcarboxylic acid molecules (which may or may not be the same molecules) that are joined together by both an ester and an ether link. Such substances are found in lichens.

**depsipectin** any linear or macrocyclic compound containing (alternating) amino-acid and hydroxy-acid residues, linked by amide, *N*-methylamide, and ester bonds. Among the naturally occurring cyclodepsipectins (sometimes alternatively termed peptolides) are the antibiotics **valinomycin**, the **enniatins**, and the monamycins.

**depurinate** to remove purine residues from a polynucleotide. —**depurinated** *adj.*; **depurination** *n.*

**depyrimidinate** to remove pyrimidine residues from a polynucleotide. —**depyrimidinated** *adj.*; **depyrimidination** *n.*

**derepression** the phenomenon in which a repressor is prevented from interacting with the operator component of an operon and an increase in the synthesis of a gene product thereby occurs. With an inducible enzyme, the inducer derepresses the operon. Derepression may also result from mutations, either in the **regulator(y) gene**, thus blocking repressor synthesis, or in the operator gene, thus rendering it insensitive to the repressor.

**deRib** (sometimes) symbol for 2-deoxy-D-ribose (dRib is the correct symbol).

**derivative** 1 any compound that may, at least theoretically, be formed from another compound to which it is structurally related. 2 *see derivative of a function.*

**derivative of a function** (in mathematics) the limit of the ratio of an increment of a dependent variable to the corresponding increment of an associated independent variable as the latter increment tends to zero.

**derivatize** or **derivatise** to convert a chemical compound into a derivative. —**derivatization** or **derivatisation** *n.*

**dermasectin** any of a series of antimicrobial peptides derived from amphibian skin. Dermaseptins s1–5 constitute a family of cationic lysine-rich amphipathic antifungal peptides of 28–34 residues. Presumed to protect the naked frog skin from infections, they have wider application, being the first vertebrate peptides to show lethal effects against the filamentous fungi that can cause infections in immunodeficiency syndrome, or during the use of immunosuppressive agents. *Compare magainin.*

**dermatan sulfate** or **chondroitin sulfate B** any of a group of glycosaminoglycans with repeats consisting of  $\beta$ 1 $\rightarrow$ 4-linked L-iduronyl-( $\beta$ 1 $\rightarrow$ 3)-*N*-acetyl-D-galactosamine 4-sulfate units. They are important components of ground substance or intercellular cement of skin and some connective tissues (*see matrix* (def. 3)). They usually occur attached to proteins as proteoglycans, the mode of linkage being the same as for **chondroitin sulfate**. A hereditary deficiency in the ability to degrade dermatan sulfate characterizes certain types of **mucopolysaccharidosis**.

**dermis** or **corium** the thick layer of tissue forming part of the skin and lying beneath the epidermis. It consists of loose connective tissue in which are blood capillaries, smooth-muscle

fibres, sweat glands and sebaceous glands with their ducts, hair follicles, and sensory nerve endings. —**dermal**, **dermic** *adj.*  
**dermorphin** any of a group of heptapeptide amides of the general structure H-Tyr-DAla-Phe-Gly-Tyr-Xaa-Ser-NH<sub>2</sub>, isolated from the skin of frogs of the genus *Phyllomedusa* and some other amphibians; they show high and long-lasting opiate-like activity.

**DES** *abbr.* for diethylstilbestrol.

**des+** *prefix* 1 (in the trivial name of a polycyclic compound, e.g. a steroid) indicating the removal of a terminal ring, with addition of a hydrogen atom at each junction arm with the adjacent ring; it should be followed by the italic capital letter designating the terminal ring in question, e.g. *des-A-androstane*. 2 (in the trivial name of a polypeptide) indicating the removal of an amino-acid residue, terminal or otherwise; it should be followed by the name or symbol for the amino acid in question and an arabic number indicating its position in the normal polypeptide, e.g. *des-7-proline-oxytocin*, or *des-Pro<sup>7</sup>-oxytocin*. 3 indicating the removal of a specified atom or group from a molecule of an indicated substance; *see des-amido+*, *desthio+*; *see also descarboxy-clotting factor*. 4 (formerly) a variant of **de+** (still preferred in some languages, e.g. French, German).

**desalinate** to remove salt, especially from seawater to render it suitable for drinking or irrigation. *Compare desalt.* —**desalination** *n.*

**desalt** to remove small, usually inorganic ions from a sample. Methods that may be used include electrodialysis, electrophoresis, gel filtration, and ion-exchange chromatography. *See also deionize. Compare desalinate.*

**desamidation** the hydrolysis of one or more carboxamide groups in a molecule to carboxyl groups.

**desamido+** *prefix* indicating **desamidation** of a molecule, especially of a peptide.

**desaturase** *general name* for any enzyme catalysing a desaturation reaction. The name specifically often refers to any of several fatty-acyl-CoA desaturases, enzymes coming within subclass EC 1.14.99; in animals these are associated with the endoplasmic reticulum, require dioxygen, and insert double bonds into saturated and Z(i.e. *cis*)-unsaturated fatty acids. They also occur in higher plants, protozoa, and fungi. These enzymes are specific for position in the fatty-acyl chain, and are termed  $\Delta^5$ -desaturase,  $\Delta^6$ -desaturase, and so on, according to the distance from the carboxyl carbon atom to the first carbon atom of the double bond. In mammals, there is a lack of any desaturase that inserts a double bond nearer to the terminal methyl group of the fatty acid than nine carbon atoms, hence the need for *n*-3 and *n*-6 precursor fatty acids (the **essential fatty acids**). *See also linoleic family, linolenic family.*

**desaturation** 1 any process or reaction in which an organic compound becomes **unsaturated** (def. 2), e.g. by removal of two hydrogen atoms, or a hydrogen atom and a hydroxyl group, from adjacent carbon atoms. 2 any process in which ligands are removed from a macromolecule so that all the binding sites for that ligand are no longer occupied. —**desaturate** *vb.*; **desaturated** *adj.*

**descarboxy-clotting factor** any of the abnormal blood clotting factors containing glutamic acid residues instead of  $\gamma$ -carboxyglutamic-acid residues. They are formed in animals deficient in vitamin K or during administration of vitamin K antagonists. *Compare PIVKA.*

**Descartes, René** (1596–1650), French philosopher and mathematician. *See also Cartesian.*

**descending chromatography** any chromatographic technique in which a liquid mobile phase runs downwards through the supporting matrix.

**descriptive name** name of an organic substance that is more descriptive of action or function and often more convenient than its **trivial name**, **semisystematic name**, **systematic name**, or other type of name permitted by the rules of chemical nomenclature.

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